

**In the Claims**

This listing of claims will replace all prior versions and listings of claims in the application.

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1. (Original) A method for identifying a chronic alcoholic comprising  
determining a concentration of ethyl oleate (O) and a concentration of ethyl  
palmitate (P) in a sample from a subject, and  
determining a P/O ratio of the concentration of ethyl palmitate (P) to the  
concentration of ethyl oleate (O) in the sample,  
wherein a P/O ratio less than 0.9 is indicative of a chronic alcoholic.
- 2.-3. (Canceled)
4. (Original) The method of claim 1, wherein the sample is blood.
5. (Original) The method of claim 1, wherein the sample is isolated from the subject within  
4 days of the cessation of alcohol intake.
6. (Original) The method of claim 1, wherein the sample is isolated from the subject within  
24 hours of the cessation of alcohol intake.
7. (Original) The method of claim 1, wherein the sample is isolated from the subject within  
12 hours of the cessation of alcohol intake.
8. (Original) The method of claim 1, wherein a subject with a P/O ratio of less than 0.9 is  
recommended for detoxification therapy.
9. (Original) The method of claim 1, wherein the subject is a human.
10. (Original) A method for identifying a chronic alcoholic comprising  
determining a concentration of ethyl oleate (O) in a sample from a subject,

wherein a concentration of ethyl oleate (O) greater than 100 pmol/mL is indicative of a chronic alcoholic.

11.-18. (Canceled)

19. (Original) A method for identifying a chronic alcoholic comprising  
determining a concentration of ethyl oleate (O) and a concentration of total FAEE  
(T) in a sample from a subject, and  
determining an O/T ratio of the concentration of ethyl oleate (O) to the  
concentration of total FAEE (T) in the sample,  
wherein an O/T ratio greater than 0.52 is indicative of a chronic alcoholic.

20.-27. (Canceled)

28. (Original) A method for determining ethanol intake comprising  
determining an amount of total FAEE in a liver sample from a subject  
determining an amount of total FAEE in an adipose tissue sample from the  
subject, and  
adding the amount of total FAEE in the liver sample to the amount of total FAEE  
in the adipose tissue sample to produce a combined total FAEE amount,  
wherein a combined total FAEE amount of greater than 2000 pmol/g is indicative of  
ethanol intake by the subject.

29. (Original) The method of claim 28, wherein the subject is deceased.

30. (Canceled)

31. (Original) The method of claim 29, wherein the liver sample and the adipose tissue  
sample are harvested from the subject within 5 days of death.

32.-34. (Canceled)

35. (Original) A method for determining ethanol intake in a subject, comprising  
determining an amount of total FAEE in a liver sample from the subject  
determining an amount of total FAEE in an adipose tissue sample from the  
subject, and  
determining the ratio of the amount of total liver FAEE to the amount of total  
adipose FAEE,  
wherein a ratio of the amount of total liver FAEE to the amount of total adipose FAEE of  
at least 2 is indicative of ethanol intake by the subject.

36.-44. (Canceled)

45. (Original) A method for determining ethanol intake in a subject, comprising  
determining an amount of ethyl arachidonate in a tissue selected from the group  
consisting of liver tissue and adipose tissue,  
wherein an amount of ethyl arachidonate of at least 200 pmol/gram in the tissue is  
indicative of ethanol intake.

46.-57. (Canceled)

58. (Original) A method for identifying a binge drinker comprising  
determining a concentration of ethyl oleate (O) and a concentration of ethyl  
palmitate (P) in a sample from a subject, and  
determining a P/O ratio of the concentration of ethyl palmitate (P) to the  
concentration of ethyl oleate (O) in the sample,  
wherein a P/O ratio greater than 1.0 is indicative of a binge drinker.

59.-67. (Canceled)

68. (Original) A method for identifying a binge drinker comprising  
determining a concentration of ethyl oleate (O) in a sample from a subject,

wherein a concentration of ethyl oleate less than 100 pmol/mL is indicative of a binge drinker.

69.-77. (Canceled)

78. (Original) A method for identifying a binge drinker comprising  
determining a concentration of ethyl oleate (O) and a concentration of total FAEE (T) in a sample from a subject, and  
determining an O/T ratio of the concentration of ethyl oleate (O) to the concentration of total FAEE (T) in the sample,  
wherein an O/T ratio less than 0.52 is indicative of a binge drinker.

79.-87. (Canceled)

88. (Original) A computer program product, comprising:  
a computer-readable medium; and  
computer-readable signals stored on the computer-readable medium that define instructions that, as a result of being executed by a computer, instruct the computer to perform a process of determining ethanol intake by a subject, the process comprising steps (or acts) of  
determining whether combined total amount of liver and adipose FAEE is at least 2000 pmol/gram;  
determining whether ratio of total liver FAEE to total adipose FAEE is at least two;  
determining whether amount of liver or adipose ethyl arachidonate is at least 200 pmol/g;  
wherein i) a combined total amount of liver and adipose FAEE of at least 2000 pmol/gram, or ii) a ratio of total liver FAEE to total adipose FAEE of at least two and an amount of total liver FAEE of at least 10,000 pmol/g, or iii) an amount of ethyl arachidonate level in liver or adipose of at least 200 pmol/g, are each indicative of ethanol intake by a subject.

89.-94. (Canceled)

95. (Original) A method of determining ethanol intake by a subject, comprising  
determining whether combined total amount of liver and adipose FAEE is at least  
2000 pmol/gram;

determining whether ratio of total liver FAEE to total adipose FAEE is at least  
two;

determining whether amount of liver or adipose ethyl arachidonate is at least 200  
pmol/g;

wherein i) a combined total amount of liver and adipose FAEE of at least 2000  
pmol/gram, or ii) a ratio of total liver FAEE to total adipose FAEE of at least two and an amount  
of total liver FAEE of at least 10,000 pmol/g, or iii) an amount of ethyl arachidonate level in  
liver or adipose of at least 200 pmol/g, are each indicative of ethanol intake by a subject,  
wherein the method is implemented on a computer.

96. (New) The method of claim 1, further comprising identifying a chronic alcoholic based  
on

determining a concentration of ethyl oleate in a sample from the subject,  
wherein a concentration of ethyl oleate greater than 100 pmol/mL in the sample is  
indicative of a chronic alcoholic.

97. (New) The method of claim 1, further comprising identifying a chronic alcoholic based  
on

determining a concentration of total FAEE (T) in the sample and  
determining an O/T ratio of the concentration of ethyl oleate (O) to the  
concentration of total FAEE (T) in the sample,  
wherein an O/T ratio greater than 0.52 is indicative of a chronic alcoholic.

98. (New) The method of claim 96, further comprising identifying a chronic alcoholic based  
on

determining a concentration of total FAEE (T) in the sample and  
determining an O/T ratio of the concentration of ethyl oleate (O) to the  
concentration of total FAEE (T) in the sample,

wherein an O/T ratio greater than 0.52 is indicative of a chronic alcoholic.

99. (New) The method of claim 10, further comprising identifying a chronic alcoholic based on

determining a concentration of ethyl palmitate (P) in the sample, and  
determining a P/O ratio of the concentration of ethyl palmitate to the  
concentration of ethyl oleate,

wherein a P/O ratio less than 0.9 is indicative of a chronic alcoholic.

100. (New) The method of claim 10, further comprising identifying a chronic alcoholic based on

determining a concentration of total FAEE (T) in the sample, and  
determining an O/T ratio of the concentration of ethyl oleate (O) to the  
concentration of total FAEE (T),

wherein an O/T ratio greater than 0.52 is indicative of a chronic alcoholic.

101. (New) The method of claim 99, further comprising identifying a chronic alcoholic based on

determining a concentration of total FAEE (T) in the sample, and  
determining an O/T ratio of the concentration of ethyl oleate (O) to the  
concentration of total FAEE (T),

wherein an O/T ratio greater than 0.52 is indicative of a chronic alcoholic.

102. (New) The method of claim 10, wherein the sample is blood.

103. (New) The method of claim 10, wherein the sample is isolated from the subject within 4 days of the cessation of alcohol intake.


104. (New) The method of claim 10, wherein the sample is isolated from the subject within 24 hours of the cessation of alcohol intake.

105. (New) The method of claim 10, wherein the sample is isolated from the subject within 12 hours of the cessation of alcohol intake.

106. (New) The method of claim 10, wherein a subject with a concentration of ethyl oleate greater than 100 pmol/mL is recommended for detoxification therapy.

107. (New) The method of claim 10, wherein the subject is a human.

108. (New) The method of claim 19, further comprising identifying a chronic alcoholic based on

 determining a concentration of ethyl palmitate (P) in a sample from a subject, and  
determining a P/O ratio of the concentration of ethyl palmitate (P) to the  
concentration of ethyl oleate (O) in the sample,  
wherein a P/O ratio less than 0.9 is indicative of a chronic alcoholic.

109. (New) The method of claim 19, further comprising identifying a chronic alcoholic based on

determining a concentration of ethyl oleate in a sample from a subject,  
wherein a concentration of ethyl oleate greater than 100 pmol/mL is indicative of a  
chronic alcoholic.

110. (New) The method of claim 108, further comprising identifying a chronic alcoholic based on

determining a concentration of ethyl oleate in a sample from a subject,  
wherein a concentration of ethyl oleate greater than 100 pmol/mL is indicative of a  
chronic alcoholic.

111. (New) The method of claim 19, wherein the sample is blood.

112. (New) The method of claim 19, wherein the sample is isolated from the subject within 4 days of the cessation of alcohol intake.

113. (New) The method of claim 19, wherein the sample is isolated from the subject within 24 hours of the cessation of alcohol intake.
114. (New) The method of claim 19, wherein the sample is isolated from the subject within 12 hours of the cessation of alcohol intake.
115. (New) The method of claim 19, wherein a subject with an O/T ratio of greater than 0.52 is recommended for detoxification therapy.
116. (New) The method of claim 19, wherein the subject is a human.
117. (New) The method of claim 28, wherein the subject is less than 2 years of age.
118. (New) The method of claim 29, wherein the liver sample and the adipose tissue sample are harvested from the subject within 3 days of death.
119. (New) The method of claim 29, wherein the liver sample and the adipose tissue sample are harvested from the subject within 24 hours of death.
120. (New) The method of claim 28, wherein the subject is a human.
121. (New) The method of claim 35, wherein the subject is deceased and the method is a method for determining pre-mortem ethanol intake by the deceased subject.
122. (New) The method of claim 35, wherein the subject is less than 2 years of age.
123. (New) The method of claim 121, wherein the liver sample and the adipose tissue sample are harvested from the subject within 5 days of death.



124. (New) The method of claim 121, wherein the liver sample and the adipose tissue sample are harvested from the subject within 3 days of death.

125. (New) The method of claim 121, wherein the liver sample and the adipose tissue sample are harvested from the subject within 24 hours of death.

126. (New) The method of claim 35, wherein the subject is a human.

127. (New) The method of claim 35, wherein the subject has ethanol in the blood.

128. (New) The method of claim 35, wherein the ethanol in the blood may be generated by bacteria.

129. (New) The method of claim 35, wherein the amount of total liver FAEE is at least 10,000 pmol/gram.

130. (New) The method of claim 45, wherein the subject is deceased and the method is a method for determining pre-mortem ethanol intake by the deceased subject.

131. (New) The method of claim 45, wherein the subject is less than 2 years of age.

132. (New) The method of claim 130, wherein the tissue is harvested from the subject within 5 days of death.

133. (New) The method of claim 130, wherein the tissue is harvested from the subject within 3 days of death.

134. (New) The method of claim 130, wherein the tissue is harvested from the subject within 24 hours of death.

135. (New) The method of claim 45, wherein the subject is a human.

136. (New) The method of claim 45, wherein the subject has ethanol in the blood.
137. (New) The method of claim 45, wherein the ethanol in the blood may be generated by bacteria.
138. (New) The method of claim 45, wherein the amount of total liver FAEE is at least 10,000 pmol/gram.
139. (New) The method of claim 45, further comprising determining a combined amount of total liver FAEE and total adipose FAEE, wherein a combined amount of at least 2000 pmol/gram or a ratio of the amount of total liver FAEE to the amount of total adipose FAEE of at least 2 is indicative of pre-mortem ethanol intake.
140. (New) The method of claim ~~56~~, further comprising identifying a binge drinker based on determining a concentration of ethyl oleate in a sample from the subject, wherein a concentration of ethyl oleate less than 100 pmol/mL is indicative of a binge drinker. *56 cancelled*
- (9)* 141. (New) The method of claim 58, further comprising determining a concentration of total FAEE (T) in the sample and determining an O/T ratio of the concentration of ethyl oleate (O) to the concentration of total FAEE (T) in the sample, wherein an O/T ratio less than 0.52 is indicative of a binge drinker.
142. (New) The method of claim 140, further comprising determining a concentration of total FAEE (T) in the sample and determining an O/T ratio of the concentration of ethyl oleate (O) to the concentration of total FAEE (T) in the sample, wherein an O/T ratio less than 0.52 is indicative of a binge drinker.

143. (New) The method of claim 58, wherein the sample is blood.
144. (New) The method of claim 58, wherein the sample is isolated from the subject within 2 days of the cessation of alcohol intake.
145. (New) The method of claim 58, wherein the sample is isolated from the subject within 24 hours of the cessation of alcohol intake.
146. (New) The method of claim 58, wherein the sample is isolated from the subject within 12 hours of the cessation of alcohol intake.
147. (New) The method of claim 58, wherein a subject with a P/O ratio of greater than 1.0 is provided immediate medical attention.
148. (New) The method of claim 58, wherein a subject with a P/O ratio of greater than 1.0 is placed on hemodialysis.
149. (New) The method of claim 58, wherein the subject is a human.
150. (New) The method of claim 148, further comprising identifying a binge drinker based on determining a concentration of ethyl palmitate (P) in the sample, and determining a P/O ratio of the concentration of ethyl palmitate (P) to the concentration of ethyl oleate (O), wherein a P/O ratio greater than 1.0 is indicative of a binge drinker.
151. (New) The method of claim 68, further comprising identifying a binge drinker based on determining a concentration of total FAEE in the sample, and determining an O/T ratio of the concentration of ethyl oleate (O) to the concentration of total FAEE (T), wherein an O/T ratio less than 0.52 is indicative of a binge drinker.

152. (New) The method of claim 150, further comprising identifying a binge drinker based on determining a concentration of total FAEE in the sample, and determining an O/T ratio of the concentration of ethyl oleate (O) to the concentration of total FAEE (T), wherein an O/T ratio less than 0.52 is indicative of a binge drinker.
153. (New) The method of claim 68, wherein the sample is blood.
154. (New) The method of claim 68, wherein the sample is isolated from the subject within 2 days of the cessation of alcohol intake.
155. (New) The method of claim 68, wherein the sample is isolated from the subject within 24 hours of the cessation of alcohol intake.
156. (New) The method of claim 68, wherein the sample is isolated from the subject within 12 hours of the cessation of alcohol intake.
157. (New) The method of claim 68, wherein a subject with a concentration of ethyl oleate less than 100 pmol/mL is provided immediate medical attention.
158. (New) The method of claim 68, wherein a subject with a concentration of ethyl oleate less than 100 pmol/mL is placed on hemodialysis.
159. (New) The method of claim 68, wherein the subject is a human.
160. (New) The method of claim 78, further comprising determining a concentration of ethyl palmitate (P) in a sample from a subject, and determining a P/O ratio of the concentration of ethyl palmitate (P) to the concentration of ethyl oleate (O) in the sample, wherein a P/O ratio greater than 1.0 is indicative of a binge drinker.

161. (New) The method of claim 78, further comprising identifying a binge drinker based on determining a concentration of ethyl oleate in a sample from the subject, wherein a concentration of ethyl oleate less than 100 pmol/mL in the sample is indicative of a binge drinker.
162. (New) The method of claim 160, further comprising identifying a binge drinker based on determining a concentration of ethyl oleate in a sample from the subject, wherein a concentration of ethyl oleate less than 100 pmol/mL in the sample is indicative of a binge drinker.
163. (New) The method of claim 78, wherein the sample is blood.
164. (New) The method of claim 78, wherein the sample is isolated from the subject within 2 days of the cessation of alcohol intake.
165. (New) The method of claim 78, wherein the sample is isolated from the subject within 24 hours of the cessation of alcohol intake.
166. (New) The method of claim 78, wherein the sample is isolated from the subject within 12 hours of the cessation of alcohol intake.
167. (New) The method of claim 78, wherein a subject with an O/T ratio less than 0.52 is provided immediate medical attention.
168. (New) The method of claim 78, wherein a subject with an O/T ratio less than 0.52 is placed on hemodialysis.
169. (New) The method of claim 78, wherein the subject is a human.

170. (New) The computer program product of claim 88, further comprising the step of determining whether blood ethanol concentration is at least 10 mg/dL.

171. (New) The computer program product of claim 88, further comprising the step of determining whether urine or vitreous ethanol levels are positive for ethanol.

172. (New) The computer program product of claim 88, further comprising the step of determining the combined total amount of liver and adipose FAEE from data entry of total amount of liver FAEE and data entry of total amount of adipose FAEE.

173. (New) The computer program product of claim 88, further comprising the step of determining the ratio of total liver FAEE to total adipose FAEE from data entry of total amount of liver FAEE and data entry of total amount of adipose FAEE.

174. (New) The computer program product of claim 88, further comprising the step of determining whether the subject was a chronic alcoholic.

175. (New) The computer program product of claim 88, further comprising the step of determining whether the subject was a binge drinker.

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